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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,791	02/25/2005	Akira Hommi	1299/14	3044

23838 7590 11/21/2005

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EXAMINER	
SMITH, TYRONE W	

ART UNIT	PAPER NUMBER
2837	

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	10/525,791	HOMMI ET AL.
	Examiner	Art Unit
	Tyrone W. Smith	2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-18 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-18 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 02/25/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 12 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The limitation in claims 1 and 12, "a torque restriction cancellation control module, in response to at least a reducing tendency of the skid, cancels the torque restriction, which is set by said torque restriction control module, to a specific degree corresponding to a variation in driver's accelerator operation, and controls the motor under at least partly cancelled torque restriction." Examiner requests that the Applicant clarify the claim limitation, either by amendment or response.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Tabata et al (JP10-304514) in view of Tezuka (5195037).

Regarding Claims 1, 11, and 12. Tabata discloses drive force controlling device for hybrid vehicle, which includes an angular acceleration measurement module that measures an angular acceleration of either of the drive shaft and a rotating shaft of the motor (Figure 2 item M) (section [0008] – section [0011]); a first skid detection module that detects a skid due to wheel spin of the drive wheels, based on the measured angular acceleration (section [0008] – section [0011]); a first torque restriction control module that, in response to detection of a skid by the first skid detection module restricts torque output and controls said motor with the restricted torque output, so as to reduce the skid (section [0008] – section [0011]); a first integration module that integrates the angular acceleration, which is measured by the angular acceleration measurement module to give a time integration thereof since detection of the skid by the first skid detection module (section [0008] – section [0011]). Refer to the abstract and sections [0082] – [0094]. However, Tabata does not disclose a torque restriction cancellation control module or having similar operation that, in response to at least a reducing tendency of the skid, cancels the torque restriction, which is set by said torque restriction control module and controls the motor under at least partly cancelled torque restriction.

Tezuka discloses torque distribution control for a four-wheel drive motor which includes a first torque restoration control module/torque resetting means (column 9 lines 26-30) that, in response to at least a reducing tendency of the skid, restores the torque output and controls the motor with the restored torque output (column 9 lines 31-34). Refer to column 7 lines 51-68 and column 8 lines 1-41. Further, restores output torque level at a predetermined timing when the angular acceleration measured by said angular acceleration measurement module has an increase or decrease (by the driver's operation) in the course of convergence of the skid. Refer to column 7 lines 51-68 and column 8 lines 1-41.

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tabata's drive force controlling device for hybrid vehicle with Tezuka's torque distribution control for a four-wheel drive motor. The advantage of combining the two would provide a system to prevent slippage at the time of accelerating by greatly reducing an engine output on detecting the slippage of the driving wheels.

Regarding Claims 2 and 13. Tabata discloses drive force controlling device for hybrid vehicle, which includes an angular acceleration measurement module that measures an angular acceleration of either of the drive shaft and a rotating shaft of the motor (Figure 2 item M) (section [0008] – section [0011]). A first skid detection module that detects a skid due to wheel spin of the drive wheels, based on the measured angular acceleration (section [0008] – section [0011])

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tabata's drive force controlling device for hybrid vehicle with Hashiguchi's a device for preventing acceleration slip of a vehicle. The advantage of combining the two would provide a system to prevent slippage at the time of accelerating by greatly reducing an engine output on detecting the slippage of the driving wheels.

Regarding Claims 3 and 14 Tezuka discloses torque distribution control for a four-wheel drive motor which includes a first torque restoration control module/torque resetting means (column 9 lines 26-30) that, in response to at least a reducing tendency of the skid, restores the torque in a stepwise manner, output and controls the motor with the restored torque output (column 9 lines 31-34).

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tabata's drive force controlling device for hybrid vehicle with Hashiguchi's a device for preventing acceleration slip of a vehicle. The advantage of combining the two would provide a

system to prevent slippage at the time of accelerating by greatly reducing an engine output on detecting the slippage of the driving wheels.

Regarding Claims 4, 5 and 15-18. Tezuka discloses torque distribution control for a four-wheel drive motor which includes a first torque restoration control module/torque resetting means (column 9 lines 26-30) that, in response to at least a reducing tendency of the skid, restores the torque output and controls the motor with the restored torque output (column 9 lines 31-34). Refer to column 7 lines 51-68 and column 8 lines 1-41. Further, restores output torque level at a predetermined timing when the angular acceleration measured by said angular acceleration measurement module has an increase or decrease (by the driver's operation) in the course of convergence of the skid. Refer to column 7 lines 51-68 and column 8 lines 1-41.

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tabata's drive force controlling device for hybrid vehicle with Hashiguchi's a device for preventing acceleration slip of a vehicle. The advantage of combining the two would provide a system to prevent slippage at the time of accelerating by greatly reducing an engine output on detecting the slippage of the driving wheels.

Regarding Claims 6 and 7. Tabata discloses drive force controlling device for hybrid vehicle, which includes an angular acceleration measurement module that measures an angular acceleration of either of the drive shaft and a rotating shaft of the motor (Figure 2 item M) (section [0008] – section [0011]); a first skid detection module that detects a skid due to wheel spin of the drive wheels, based on the measured angular acceleration (section [0008] – section [0011]); a first torque restriction control module that, in response to detection of a skid by the first skid detection module restricts torque output and controls said motor with the restricted torque output, so as to reduce the skid (section [0008] – section [0011]); a first integration module that integrates the angular acceleration, which is measured by the angular acceleration

measurement module to give a time integration thereof since detection of the skid by the first skid detection module (section [0008] – section [0011]). Refer to the abstract and sections [0082] – [0094].

It would have been obvious to one of ordinary skill in the art at the time of invention to use Tabata's drive force controlling device for hybrid vehicle with Hashiguchi's a device for preventing acceleration slip of a vehicle. The advantage of combining the two would provide a system to prevent slippage at the time of accelerating by greatly reducing an engine output on detecting the slippage of the driving wheels.

Regarding Claim 8-10. Tabata and Tezuka do not indicate another torque restriction control module or re-restriction torque module being used in the invention.

In re Harza, 274 F.2d 669, 124 USPQ 378 (CCPA 1960) (Claims at issue were directed to a water-tight masonry structure wherein a water seal of flexible material fills the joints which form between adjacent pours of concrete. The claimed water seal has a "web" which lies ** in the joint, and a plurality of "ribs" ** >projecting outwardly from each side of the web into one of the adjacent concrete slabs. <The prior art disclosed a flexible water stop for preventing passage of water between masses of concrete in the shape of a plus sign (+). Although the reference did not disclose a plurality of ribs, the court held that mere duplication of parts has no patentable significance unless a new and unexpected result is produced.).

It would have been obvious to one of ordinary skill in the art at the time of invention to add another torque restriction module to the inventions of Tabata and Tezuka. The advantage would provide a better system, which may ensure driving stability and steering in accordance with slip or skid conditions.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pertinent arts of record related to slip/skid control or anti lock braking are disclosed in the PTO-892.

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tyrone W. Smith whose telephone number is 571-272-2075. The examiner can normally be reached on weekdays from 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin, can be reached on 571-272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tyrone Smith
Patent Examiner

Art Unit 2837

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